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SOLVING THE ABANDONED VEHICLE PROBLEM IN SMALL COMMUNITIES

William T. Dehn

Bureau of Solid Waste Management
Rockville, Maryland

1970

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written by
WILLIAM T. DEHN, Engineer

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Bureau of Solid Waste Management
1970

SUMMARY

The small community faces serious problems in dealing with and eliminating abandoned vehicles. In this report, two case studies are presented which describe the cleanup efforts of two small communities--Newcastle, Wyoming and Klamath County, Oregon.

The communities were different in their approach and method for handling abandoned vehicles. In Newcastle, a community volunteer approach was organized and sponsored by the Junior Chamber of Commerce. Since volunteer help was utilized, the cost of the project was negligible. The cleanup actually encompassed all forms of neighborhood debris but abandoned vehicles was the primary objective. A two phased plan was devised with the first phase centered around the disposal of approximately 1,200 vehicles in an abandoned vehicle dismantling yard. Vehicles were crushed by bulldozers and buried in a ravine at the rear of the dismantling yard. The second phase included the cleanup of all forms of neighborhood debris, including abandoned vehicles. These vehicles were disposed of in the same ravine. The entire project was completed on two weekends about a month apart.

In Klamath County, organization of the cleanup was handled by the Office of the County Engineer. Collection of abandoned vehicles was provided as a service to the community. The pickup fee was a basic $3.50 per vehicle with discounts for large numbers on the same

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property. Vehicles were hauled to a county land disposal site and stockpiled. A few weeks later, a portable baling machine was brought in to crush the vehicles into bales. Bales were then shipped to a steel mill for metal recovery. The baling charge to the county was $1.00 per vehicle.

These two successful cleanup campaigns illustrate that through desire and initiative, small communities can solve their abandoned vehicle problems. Hopefully, the documentation of these solutions will inspire other communities to take similar action and provide some guidance in the development of their own abandoned vehicle program.

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INTRODUCTION

With the increasing national attention toward the elimination of environmental pollution, the abandoned vehicle has become the source of a great deal of concern and criticism in communities across the nation. This concern is a result of the 3.4 million vehicles* presently abandoned on public and private property and the 1.2 million vehicles* that will be added to the total this year. Vehicle abandonment is a serious problem in all communities, big and small, but is especially troublesome to small communities which lack the financial resources necessary to handle the problem. Even when vehicle dismantling companies, which purchase vehicles and sell useable parts, are located in a small community, problems still exist. These companies usually reduce the number of vehicles accumulated on public and private property, but in so doing they accumulate unsightly inventories of vehicle hulks which can be as undesirable as the scattered abandoned vehicles they collect. In many cases, dismantling companies in small communities have inventories of vehicle hulks which they cannot economically recycle. Commercial freight charges to the nearest processing facility (baling or shredding) often make the reuse of these hulks impractical.

To appreciate the problem facing the small community, it is necessary to understand the scrap cycle (Figure 1) and how it affects the problems mentioned above. The cycle begins with the

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*1970 Bureau of Solid Waste Management estimate.

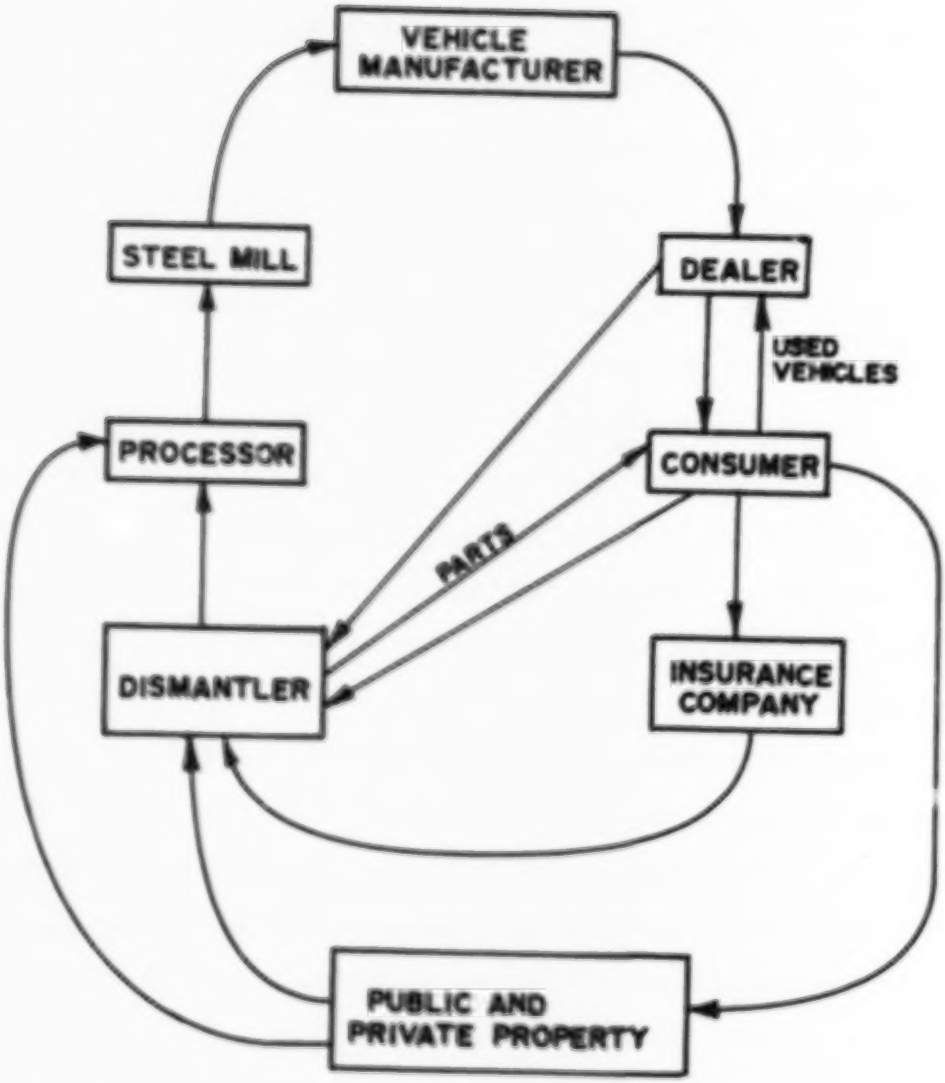

Figure 1. Vehicle Scrap Cycle

vehicle manufacturer which takes materials and produces vehicles for shipment to dealers. Dealers sell vehicles to the general public, and often receive used vehicles in trade. These used vehicles are either resold to the public or to a dismantler who salvages parts and sells them.

The consumer uses his vehicle for transportation until one of three things happens: (1) it becomes old and maintenance costs make it uneconomical to continue using it for transportation, (2) it is involved in an accident and is damaged beyond repair, or (3) it is traded for another model or sold. If the consumer gets rid of his vehicle because of reason (1) and/or (2), he may either sell it to a dismantler, release it to an insurance company, or abandon it on public or private property. This latter choice creates the vehicle abandonment problem--a major problem facing the small community.

After a vehicle has been abandoned, it may be towed into either a dismantler or a processor. As mentioned earlier, the dismantler provides a service to a community not only by removing unwanted vehicles from public and private property, but also by selling used parts for vehicle repairs. Dismantlers are often the only source of parts for early model vehicles. However, in order for a dismantler to stay in business, he must maintain an inventory of parts to satisfy his customers' needs. This inventory is generally kept by storing parts on the vehicle hulks and removing them as

required. This practice creates large piles of vehicle hulks which are unsightly and cause an aesthetic problem for the community.

The processors, which create a recyclable product from the vehicle hulks, acquire vehicles from two sources: (1) dismantlers and (2) public and private property. For economic reasons, most processors are located in large metropolitan areas near a rather constant source of scrap. Some processors, however, operate mobile equipment and move around, having no base population from which most of their scrap is generated. The processors also create the same unsightly inventory problem as the dismantlers. Inventories are necessary to insure the processing equipment will be kept operating at all times. Inventories sometimes grow extremely fast due to equipment breakdowns. This condition often causes public relations problems for the processors.

The scrap from processors then finds its way to steel mills where it is used to produce steel products, some of which are manufactured into more vehicles. The cycle then begins again following the same pattern, with the same problems as noted above.

THE PROBLEM

The small community faces special problems with abandoned vehicles due to its lack of a sufficient economic base to finance processing equipment and in many cases its distance from an

urban area which contains such equipment. These two factors create the following problems for the small community:

1. Lack of a coordinated collection system for abandoned vehicles.
2. Lack of demand for used vehicle parts which would attract or hold dismantlers in the area. Some may even quit the business, leaving their vehicle inventory behind.
3. Lack of sufficient abandoned vehicle supply in one central area to attract a processor from an urban area.

These three problems are the cause of the abandoned vehicle situation in the small community.

CASE STUDIES

The existence of these problems by no means indicates their invulnerability to solution. Acceptable plans for overcoming these problems have been developed in several communities across the country. This paper presents two case studies of small communities which have attacked their abandoned vehicle problem in two different ways. These communities are Newcastle, Wyoming, and Klamath County, Oregon. A third cleanup campaign, which has been documented previously, was held in Portland, Maine*. Because small communities face the same shortcomings in handling the abandoned vehicle situation, it seems feasible that similar plans could be used in other communities faced with finding acceptable solutions to their problem.

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*Andrews, John B., "Operation Junklift--A Community Public Works Program," Public Works; April 1968; p. 96-98.

NEWCASTLE, WYOMING

Newcastle, Wyoming is a small town of 4,000 population, located in the northeast corner of the state. The economy of the town is based on oil refining, ranching, and lumber products.

The cleanup was initiated as a result of a proposed highway project. The proposed route was designed to skirt the downtown area of Newcastle and bring traffic directly adjacent to a dormant vehicle dismantling yard on the west end of town. It was feared that this yard would give travelers a poor impression of Newcastle and might divert them from the central business area, causing the loss of revenue for downtown merchants.

This project is a good example of the use of community resources in solving an aesthetic and environmental health problem. The removal of junked automobiles from personal property and an abandoned vehicle dismantling yard in Newcastle eliminated a potential health and safety hazard and helped impro ' the appearance of the community.

Organization

Recognizing the need for action to clean up the dormant dismantling yard, a meeting of the Jaycees (Junior Chamber of Commerce) was called on February 4, 1969, at which the mayor presented the problem and asked the Jaycees to organize the cleanup. The next day, a group of Jaycees took a tour of the city to determine the need for an overall cleanup which would include residential areas of town in addition to the dismantling yard. At a subsequent meeting on February 11, 1969, the membership voted to organize a cleanup of the town with an emphasis on tackling the junked vehicle problem.

In preparation for the cleanup, several members of the Jaycees met with the mayor of Box Elder, South Dakota, whose town had successfully completed a cleanup within the last year. Members of an earlier cleanup campaign in 1965 were also contacted for their views and suggestions on the project. Guidelines for organization of the cleanup were received at these meetings.

With the objectives of the campaign clearly in mind, it became necessary to establish a committee structure to carry out the administration and organization of the project (Figure 2). Committee chairmen were selected and preparation for the cleanup officially began. The campaign was handled in two phases, concentrating on two different but related problems on different weekends. The first phase concentrated on eliminating the most obvious eyesore of the community--the abandoned vehicle dismantling yard. Phase II included the cleanup of all unsightly solid waste and abandoned vehicles in the residential areas of the community.

Phase I

The dismantling yard became the initial focal point for the Jaycees. The yard covered approximately six acres and was filled with abandoned and partially dismantled vehicles. The Jaycees estimated that 1,000 to 1,300 vehicles were located in the dismantling yard prior to the cleanup. It was necessary to obtain the approval of the owner of the yard before any vehicles on the premises could be moved. The owner was quite reluctant to allow these vehicles

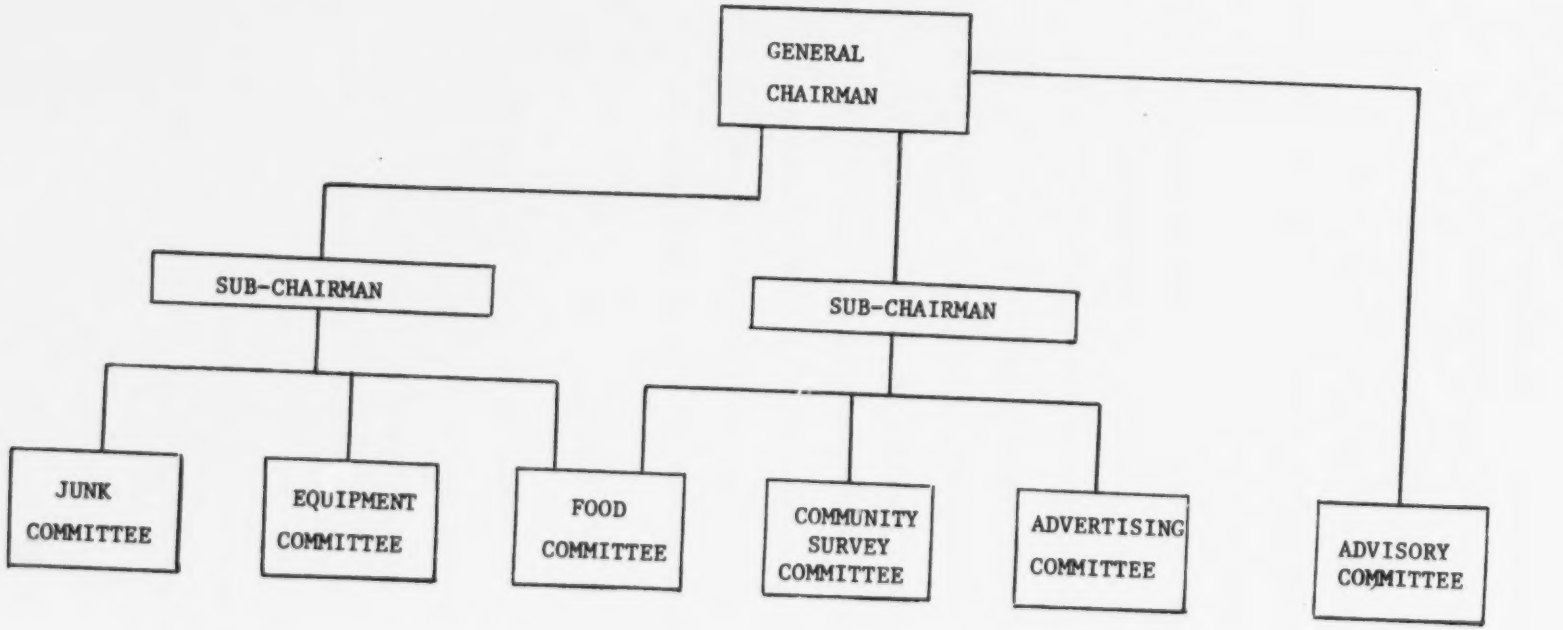

Figure 2. Cleanup Organization Chart

to be removed since he believed them to be of value. After a great deal of debate and some community pressure, on February 27, the owner granted permission to clear the yard.

Equipment was borrowed from local firms and arrangements were made for citizen volunteers for the cleanup. The County Commissioners released county equipment for use during the campaign. The Garden Club arranged to provide coffee and lunch for those assisting in the cleanup. Arrangements were made for traffic control by the police department and fire protection by the fire department at the abandoned dismantling yard. The local radio station and newspaper were contacted for coverage of the day's activities.

On March 9, the cleanup of the dismantling yard began. Work started promptly at 6:30 a.m. A method of handling the junked vehicles was developed whereby vehicles could be compressed and disposed of at the rear of the site with a minimal amount of traffic congestion from the equipment (Figure 3). Two bulldozers were located at the rear of the yard near the ravine for compressing the vehicles. A circular path was cleared through the vehicles so that trucks could bring vehicles to the disposal point and return to get another vehicle without running into other trucks bringing vehicles to the disposal area. The compressed vehicles were disposed of in the ravine. Trucks used in the collection of the vehicles were equipped with a hoist which allowed them to carry the vehicles from one part

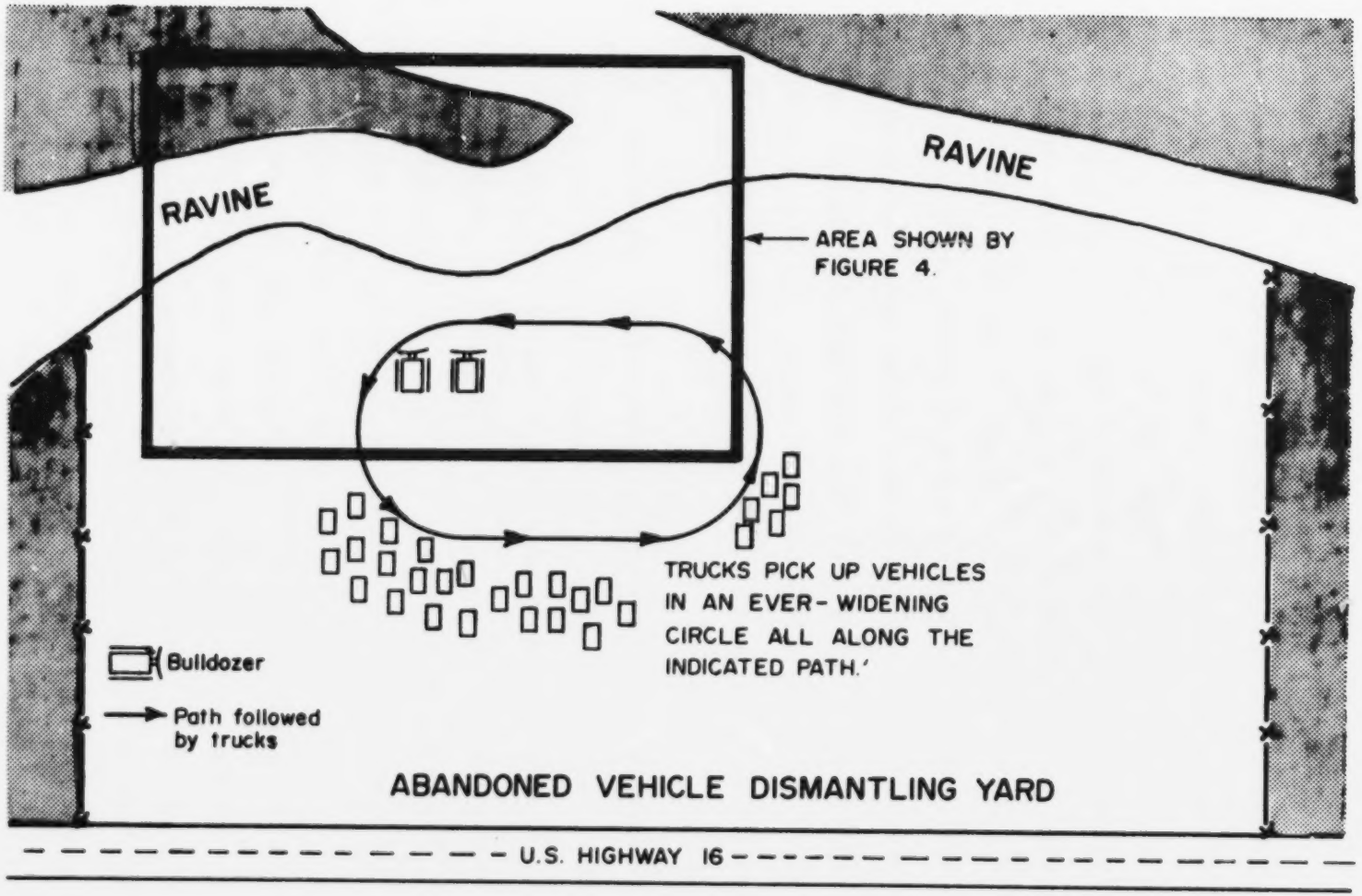
RAVINE
RAVINE
AREA SHOWN BY FIGURE 4.
TRUCKS PICK UP VEHICLES IN AN EVER-WIDENING CIRCLE ALL ALONG THE INDICATED PATH.
Bulldozer
Path followed by trucks
ABANDONED VEHICLE DISMANTLING YARD
U.S. HIGHWAY 16

Figure 3. Pattern for Collection of Junked Vehicles

of the yard to another (Photograph 1). An industrial carry lift used in a local wood products plant was also used in the collection of vehicles (Photograph 2). Vehicles were pulled from piles by the carry lift, attached to a truck by cables, and hauled to the disposal area.

At the disposal area, as many as three vehicles were placed side by side near the edge of the ravine (Figure 4). One bulldozer then pushed the hulks into the ravine and continued across the ravine, crushing the vehicles against the far wall of the ravine and compacting them beneath the bulldozer. While the compacting was taking place with one bulldozer, the other bulldozer was back in its original position, preparing to push three more vehicles into the ravine. This alternating approach kept the disposal process continuous, and cleanup participants claimed this was the fastest and most practical method they used. At the conclusion of the day, the compacted vehicles were left uncovered in the ravine (Photograph 3). Nineteen pieces of heavy equipment with operators had been involved in the cleanup and an estimated 50 man-days had been expended in the effort.

Phase II

At the conclusion of Phase I, the Jaycees immediately began to plan for the second cleanup weekend which took place approximately a month and a half later. Phase II included an entire cleanup of residential areas but only the portion pertaining to the abandoned vehicles will be described.

Photograph 1. Hoist Truck

Photograph 2. Carry Lift

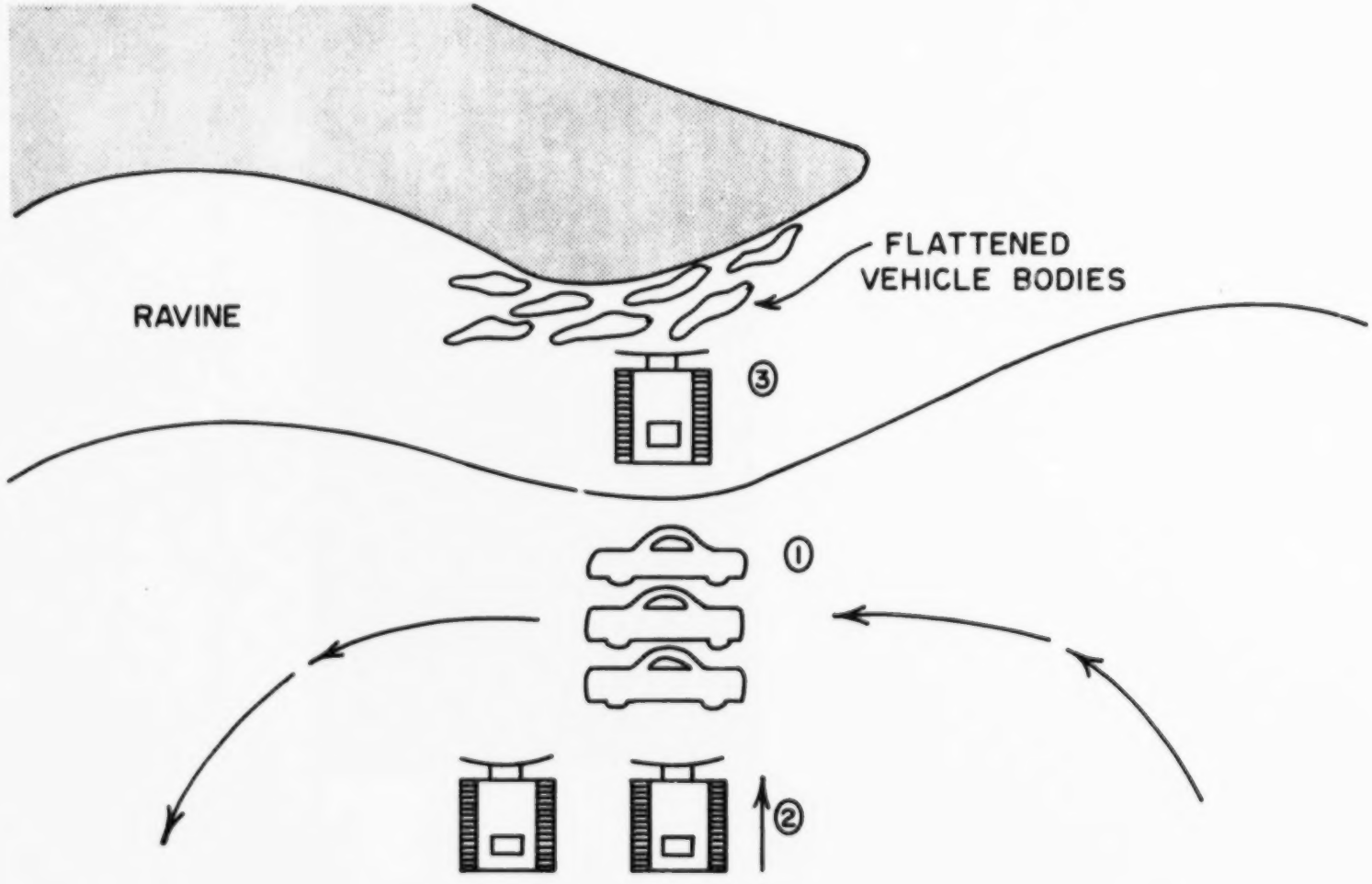

Figure 4. Vehicle Crushing Method

Photograph 3. Compacted Vehicles in the Ravine

The first step of Phase II was the location of the abandoned vehicles. The city was sectioned into six zones (Figure 5), and each zone was canvassed by a different civic organization looking for abandoned vehicles on public property. The canvassing was conducted during the weeks preceding the second cleanup weekend on April 20. When an abandoned vehicle was located, the owner was requested to release the car for pickup and to sign a permission card (Figure 6) developed for this purpose. In addition to this door-to-door canvassing, the local newspaper printed copies of the permission form in each edition for about a month preceding April 20. A system whereby citizens could act as informants against their neighbors was instituted. This allowed citizens to send in a form requesting that a certain abandoned vehicle be removed from a neighbor's yard (Figure 7). When a form was received, the committee contacted the owner and asked permission to remove the vehicle. This system proved to be quite successful.

On April 20, Phase II of the cleanup campaign came to a conclusion with the collection and disposal of the identified abandoned vehicles. A group of trucks was assigned to each of the six zones of town. Each group was given a list of addresses at which premission had been obtained for vehicle removal. The truck drivers had the responsibility for seeing that requests for removal were satisfied. Both dump trucks and hoist trucks were used to collect vehicles. Vehicles collected were placed in the disposal ravine but not crushed as during Phase I since loan equipment was not available.

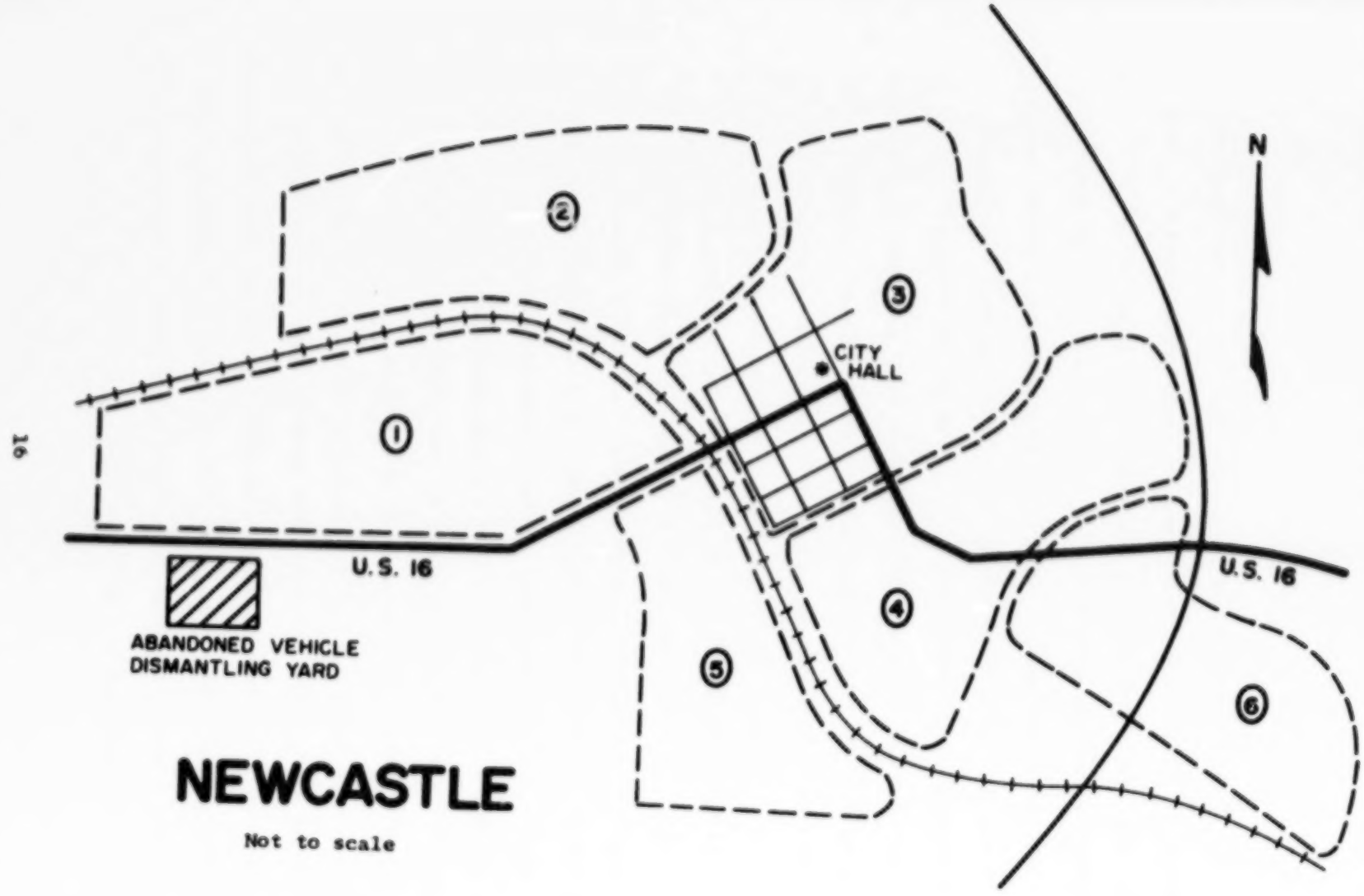

Figure 5. Collection zones

PERMISSION

I hereby give permission to the cleanup committee to remove debris, and any other unsightly items from the following described property owned or managed by myself.

_____

_____

(Description of Lot or Area)

_____

Owner or Manager

The following items of property shall NOT be removed:

Figure 6. Permission card

HELP CLEAN UP NEWCASTLE!

I recommend the following location or area be given consideration by the cleanup committee for removal of debris, etc.

LIST LOCATION _____

_____

Give general description of what needs to be cleaned up at the above location.

(PLEASE DO NOT SIGN YOUR NAME)

Figure 7. Cleanup form

Later in the year, the county covered the ravine with fill dirt. Two bulldozers spent one and one-half days completing the fill.

Costs

Actual costs to the Jaycees club included the following:

Printing of Phase II permission cards	$15.00
Refreshments	10.00
Total Cost	$25.00

Donations included the following:

Individual donation	$25.00

The resultant net cost to the Jaycees was zero. Considerable value in time, equipment, and fuel was donated by various businesses, governmental bodies and individuals.

KLAMATH COUNTY, OREGON

Klamath County, Oregon is located in the south central portion of the State and shares a common border with the State of California. Klamath Falls, the county seat, is a town of 19,500 population with a metropolitan area encompassing 40,400 people. The economy of the area is based primarily on the lumber and forest products industries, but agriculture is second in importance with potatoes, barley, alfalfa, and beef the primary products.

This case study discusses a 1969 cleanup campaign conducted in Klamath County, primarily in metropolitan Klamath Falls. This cleanup is an example of how a governmental body can help alleviate the abandoned vehicle problem with a minimum of direct community involvement. It also illustrates how a scrap metal baler can be utilized in the campaign to haul away vehicular scrap for reclamation.

Background

The vehicle cleanup campaign held in June 1969, was the second cleanup conducted in Klamath County. The first cleanup was conducted in 1967, and the county drew upon its experience in that effort in organizing the 1969 campaign.

The 1969 campaign was part of a county beautification program instigated as a result of an area-wide baseball tournament to be held in Klamath Falls. The city anticipated that this event would attract

spectators from southern Oregon and northern California. Because of the large attendance expected, the local Kiwanis Club organized a cleanup of the community.

The cleanup was aimed at the entire community including the metropolitan areas. Solid waste of all types was removed from roadsides, parks and private property. This case study, however, will deal only with abandoned vehicle cleanup.

The overall plan for the vehicle cleanup campaign included a public information program over local broadcast media and in the newspapers, collection of vehicles by the county road department, storage of vehicles at one of the regional solid waste disposal sites, baling of the vehicles by a private contractor, and shipment of the baled vehicles to a steel mill for recycling.

Cleanup Campaign

To handle the abandoned vehicle problem, the Klamath County Engineer's Office was contacted by local service organizations and asked to provide assistance in the cleanup of abandoned vehicles. They agreed to undertake the responsibility for organizing the abandoned vehicle collection and disposal.

County personnel were temporarily assigned to satisfy requests for pickups. County road maintenance equipment, mostly dump trucks, were used to collect abandoned vehicles. The pickup service was advertised in the local newspaper, but no effort was made to visit

citizens and persuade them to have an abandoned vehicle removed. A charge of $3.50/vehicle was made to the owner to defray the cost of collection and disposal which was estimated at $5.00/vehicle (the cost to the county had been $10.50/vehicle during the 1967 campaign).

To collect a vehicle, a county employee contacted the person requesting the pickups. A release form and bill of sale (Figure 8) were prepared by the county's legal counsel and the owners were required to sign the form before any vehicle was removed. The vehicles were loaded onto trucks and hauled to a land disposal site and stockpiled in a special area set aside for abandoned vehicle storage. Sixty-four vehicles were picked up by the county during this campaign.

A scrap metal firm crushed the vehicles stockpiled at the disposal site at a cost to the county of $1.00/vehicle. Prior to baling, the contractor required that all vehicles be burned and that the gasoline tanks, transmissions, and engines be removed. This was to meet the requirements of the steel company in Oakland, California which bought the bales. The firm utilized a portable baling machine to process the vehicles (Photograph 4). The baler consisted of a large hopper with moveable sides and a large ram. When scrap was placed in the baler the operator crushed it by alternately rotating one side and then the other into the hopper where the metal rested. When the scrap was sufficiently crushed, both sides were rotated toward the middle of the hopper until they formed a square tube

RELEASE AND BILL OF SALE

The undersigned agrees to pay to Klamath County, a political subdivision of the State of Oregon, the sum of $_____ for the removal of a motor vehicle described as follows:

from the premises described as follows, to-wit:

This document empowers the employees of Klamath County to enter upon the above-described premises for the purpose of removing said vehicle or vehicles.

It is understood by the undersigned that said vehicle is to be removed for the purpose of reducing the same to scrap, and that said vehicle will be demolished. The undersigned represents that he is the owner of said vehicle; and,

It is further understood by the undersigned that this document is to serve as a Bill of Sale to the County of Klamath and to the firm reducing said vehicle to scrap, and the undersigned agrees to furnish title upon demand.

The undersigned further agrees to indemnify and save harmless the County of Klamath and all other individuals, partnerships and corporations instrumental in reducing said vehicle to scrap, from any and all claims and demands of any kind or nature arising out of the scrapping of said vehicle from any and all persons who may claim an interest therein.

Dated this _____ day of _____, 19___.

_____

_____

Figure 8. Release form and bill of sale

Photograph 4. Portable Baling Machine

Photograph 5. Operator picking up scrap to be loaded into the baler hopper.

Reproduced from best available copy.

through which the ram crushed the metal into a compact bale. Bales were then removed from the machine and stored for shipment to the steel mill (Photograph 5). Prices paid for these bales were determined by the market price at the time of delivery.

DISCUSSION

The two case studies presented herein deal with two different solutions to similar problems. Similarity is found in the fact that both Newcastle and Klamath County had significant accumulations of abandoned vehicles. This was due in part to the distance of these communities from processing facilities of sufficient capacity to process vehicles from these areas. Only larger processors can afford to incur transportation costs to obtain vehicles from great distances. Both of these communities are in excess of 250 miles from such facilities. This fact necessitated the development of a community strategy for handling the abandoned vehicle problem.

The strategies developed by each of these communities were successful, although different. Each community incorporated ideas into its approach which are particularly laudable and worthy of comment. The method of organization and citizen participation coordinated through a service-oriented, non-Government club in Newcastle are of particular interest. The campaign was organized and managed by the local Jaycees and there was no actual cost to the town. The community effort utilized in Newcastle was extremely successful and gave everyone who participated in the cleanup a sense of accomplishment and pride in what had been done. In Klamath County, removal of abandoned vehicles was achieved with a minimum of citizen involvement. The fact that scrap metal contained in the abandoned vehicles was recycled in the Klamath County campaign is worthy of

comment. The portable baling machine utilized to crush the vehicles demonstrates the feasibility of recycling vehicle scrap in the small community.

It is hoped that the experiences of these two communities, plus those reported in Portland, Maine, will be valuable to communities planning similar cleanup projects. Perhaps the reporting of these cleanup efforts will inspire other citizens to similar action in their respective communities.